

PLEASE DELIVER

TO

PAUL SCHULLWITZ

SEARCH REQUEST FORM

SEARCH RESULTS BY

Scientific and Technical Information Center

4/2/02
IF POSSIBLE, THANKS

Access DB# 69230

Requester's Full Name: RICHARD SCHNIZER Examiner #: 76557 Date: 3/12/02
Art Unit: 1635 Phone Number 306-5441 Serial Number: 09/580463
Mail Box and Bldg/Room Location: CMI 11E12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: CYTODECTIN DIMERS AND METHODS OF USE THEREOF

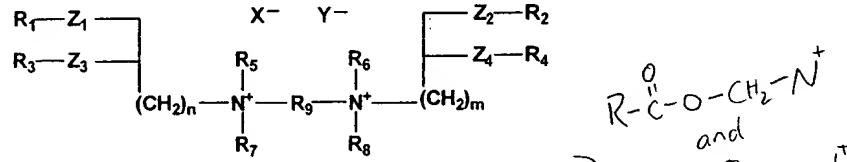
Inventors (please provide full names): CARL J WHEELER

Earliest Priority Filing Date: 5/28/99

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

PLEASE SEARCH CLAIM 47

47. (New) A cationic lipid compound of the following formula



wherein

Z₁, Z₂, Z₃ and Z₄ are the same or different and are -O-C(O)- or -O-;

R₁ and R₂ are the same or different and are H, C₁ to C₂₄ alkyl or C₁ to C₂₄ alkenyl;

R₃ and R₄ are the same or different and are C₁ to C₂₄ alkyl or C₁ to C₂₄ alkenyl;

R₅, R₆, R₇ and R₈ are the same or different and are H, C₁ to C₁₀ alkyl or C₁ to C₁₀

alkenyl;

R₉ is a linker;

n and m are the same or different and are 1 to 8; and

X and Y are the same or different and are non-toxic anions;

provided that R₉ is not C₃ to C₂₂ unsubstituted alkyl.

STAFF USE ONLY

Searcher: Paul Schulwitz

| Type of Search | Vendors and cost where applicable |
|-----------------|-----------------------------------|
| NA Sequence (#) | STN |
| AA Sequence (#) | Dialog |
| Structure (#) | Questel/Orbit |
| Bibliographic | Dr. Link |
| Litigation | Lexis/Nexis |
| Fulltext | Sequence Systems |
| Patent Family | WWW/Internet |
| Other | Other (specify) |

Searcher Phone #:

Searcher Location: 3/14

Date Searcher Picked Up: 3/14

Date Completed: 3/14

Searcher Prep & Review Time: 20

Clerical Prep Time:

Online Time:

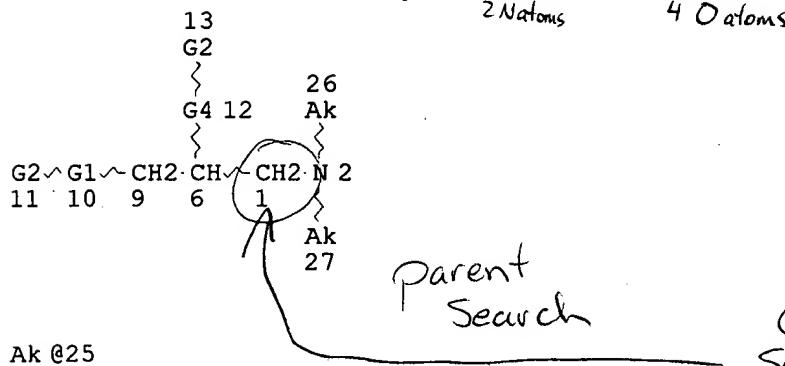
POINT OF CONTACT:
PAUL SCHULLWITZ
TECHNICAL INFO. SPECIALIST
CMI 6806 TEL. (703) 305-1954

=> d que

L12

L16

SCR 2040 AND 1993 AND 2007
 STR Charged at least at least
 2 Nations 4 Atoms



O=C~O
 22 @23 @24

Claim 47
 Search limitation

M=1 and n=1

VAR G1=O/23-11 24-9/24-11 23-9

VAR G2=H/25

VAR G4=O/23-13 24-6/23-6 24-13

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 25

CONNECT IS E1 RC AT 26

CONNECT IS E1 RC AT 27

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

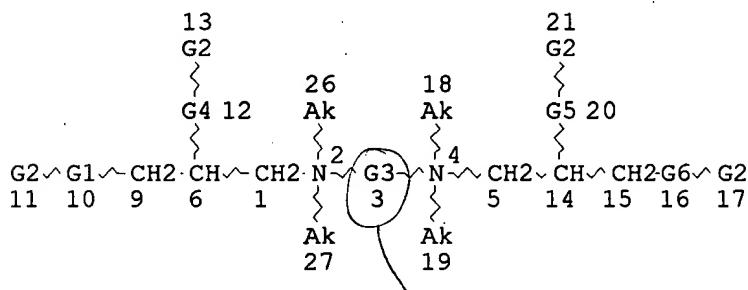
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L18 STR



O=C~O
 22 @23 @24

Subset Search

Ak @25

VAR G1=O/23-11 24-9/24-11 23-9

VAR G2=H/25

REP G3=(1-20) A

VAR G4=O/23-13 24-6/23-6 24-13

VAR G5=O/23-21 24-14/23-14 24-21

VAR G6=O/23-17 24-15/23-15 24-17

NODE ATTRIBUTES:

linker can be 1-20 Anything

CONNECT IS E1 RC AT 18
CONNECT IS E1 RC AT 19
CONNECT IS E1 RC AT 25
CONNECT IS E1 RC AT 26
CONNECT IS E1 RC AT 27
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE

L20 324 SEA FILE=REGISTRY SSS FUL L12 AND L16
L22 35 SEA FILE=REGISTRY SUB=L20 SSS FUL L18
L23 12 SEA FILE=HCAPLUS ABB=ON PLU=ON L22

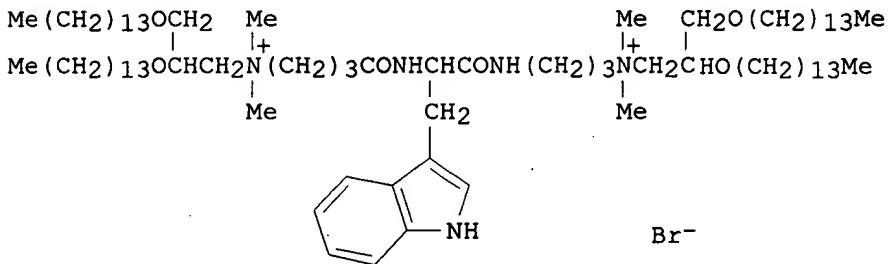
324 structures from parent search

- 35 structures from subset search

12 references to these 35 structures

L23 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2002 ACS
 AN 2000:861646 HCAPLUS
 DN 134:21482
 TI Cytofectin dimers and methods of use thereof
 IN Wheeler, Carl J.
 PA Vical, Inc., USA
 SO PCT Int. Appl., 50 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|-----------|----------|-----------------|----------|
| PI | WO 2000073263 | A1 | 20001207 | WO 2000-US14676 | 20000526 |
| | W: CA, JP, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 1183231 | A1 | 20020306 | EP 2000-939373 | 20000526 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| PRAI | US 1999-136472 | P | 19990528 | | |
| | WO 2000-US14676 | W | 20000526 | | |
| OS | MARPAT | 134:21482 | | | |
| GI | | | | | |

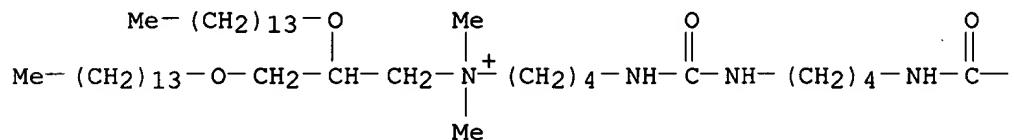


AB A compn. is provided comprising a novel cationic lipid compd. having hydrophobic tails and two quaternary ammonium headgroups bridged by a linker. The compn. is useful as a cytofectin for facilitating delivery and transfection of biol. active agents, particularly anionic bioactive agents such as DNA, into cells. The compn. is useful also as an adjuvant for enhancing the humoral immune response of a vertebrate to an immunogen, esp. an immunogen encoded by a polynucleotide-based vaccine. In certain preferred embodiments, the cationic lipid compd. is a dimer contg. quaternary ammonium headgroups bridged by a linker having DNA and/or cell receptor binding affinity, such as a polypeptide or polyamine. Also disclosed is an immunogenic compn. comprising an immunogen and the compn. of the present invention. I was prep'd. as an example compd.

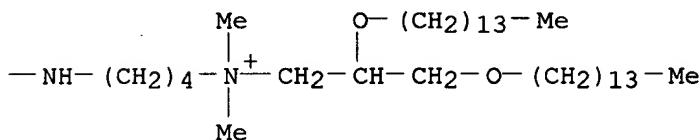
IT 310445-41-1P 310445-42-2P 310445-43-3P
 310445-44-4P 310445-45-5P 310445-46-6P
 RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (cationic lipids prep'n. as cytofectin for delivery and transfection of

RN 310445-41-1 HCAPLUS
CN 5,7,12,14-Tetraazaoctadecane-1,18-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-6,13-dioxo- (9CI) (CA INDEX NAME)

PAGE 1-A

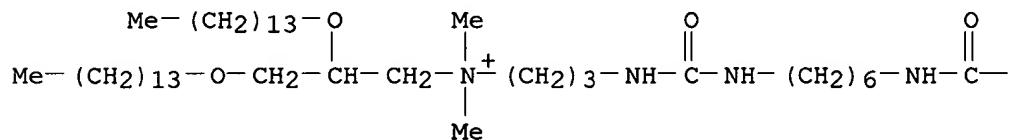


PAGE 1-B

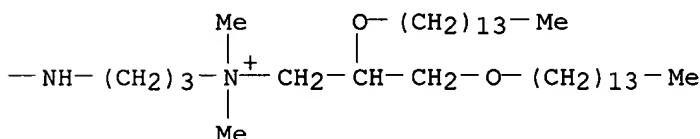


RN 310445-42-2 HCAPLUS
CN 4,6,13,15-Tetraazaoctadecane-1,18-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-5,14-dioxo- (9CI) (CA INDEX NAME)

PAGE 1-A

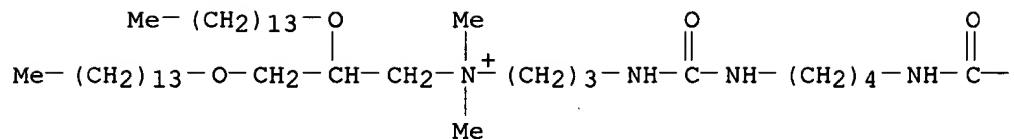


PAGE 1-B

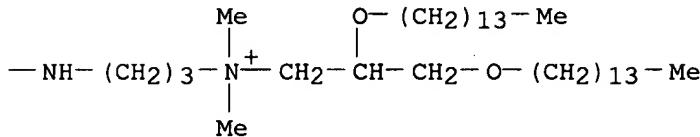


RN 310445-43-3 HCAPLUS
CN 4,6,11,13-Tetraazahexadecane-1,16-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-5,12-dioxo- (9CI) (CA INDEX NAME)

PAGE 1-A



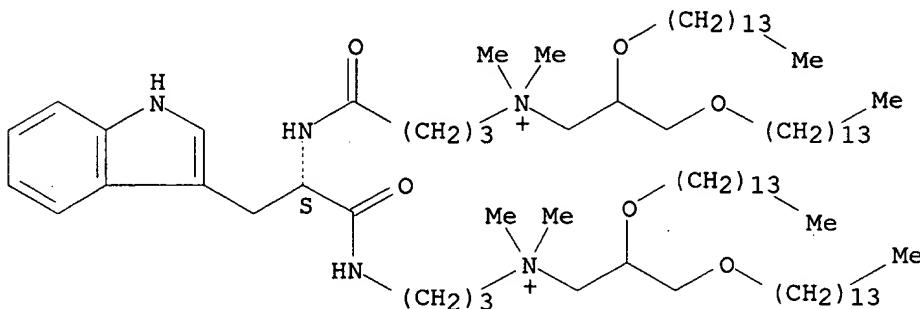
PAGE 1-B



RN 310445-44-4 HCAPLUS

CN 16-Oxa-4,7-diaza-12-azoniatriacontan-1-aminium, N-[2,3-bis(tetradecyloxy)propyl]-6-(1H-indol-3-ylmethyl)-N,N,12,12-tetramethyl-5,8-dioxo-14-(tetradecyloxy)-, dibromide, (6S)- (9CI) (CA INDEX NAME)

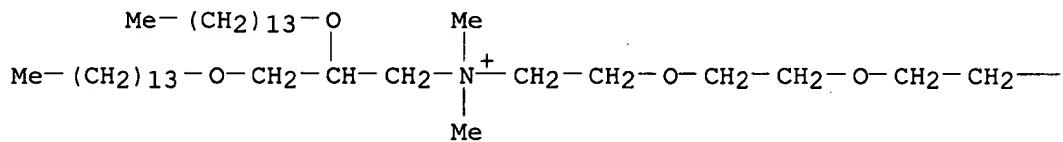
Absolute stereochemistry.

●2 Br⁻

RN 310445-45-5 HCAPLUS

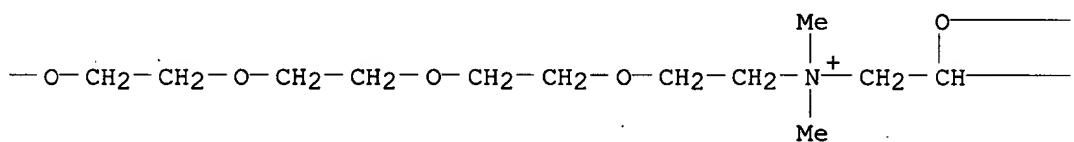
CN 3,6,9,12,15,18-Hexaoxaeicosane-1,20-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



●₂ Br⁻

PAGE 1-B



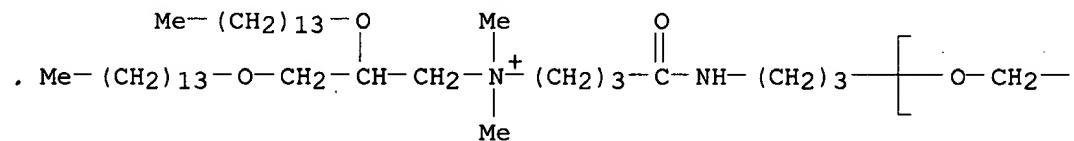
PAGE 1-C

$$\text{---CH}_2\text{---O---(CH}_2\text{)}_{13}\text{---Me}$$

RN 310445-46-6 HCAPLUS

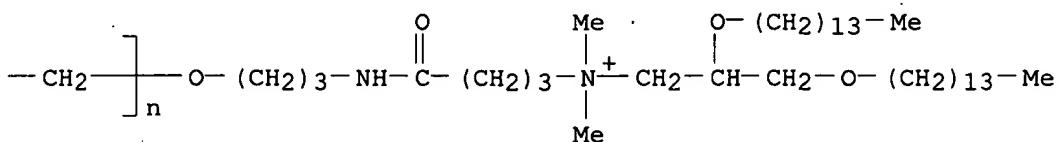
CN Poly(oxy-1,2-ethanediyl), .alpha.-[3-[[4-[[2,3-bis(tetradecyloxy)propyl]dimethylammonio]-1-oxobutyl]amino]propyl]-.omega.-[3-[[4-[[2,3-bis(tetradecyloxy)propyl]dimethylammonio]-1-oxobutyl]amino]propoxy]-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

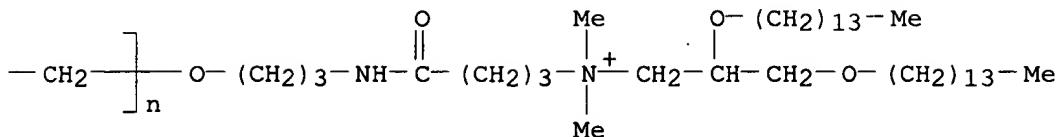


● 2 Br⁻

PAGE 1-B



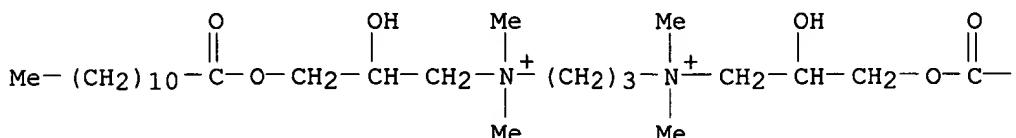
PAGE 1-B



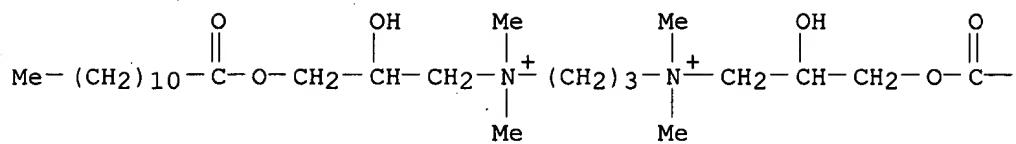
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2002 ACS
 AN 2000:568687 HCAPLUS
 DN 133:239731
 TI Preparation of quaternary ammonium salts containing ester groups from epichlorohydrin
 AU Kim, Tae-Seong; Ha, Jeong-Wook; Kim, Dong-Il; Rang, Moon-Jeong; Ahn, Ho-Jeong
 CS LG Household & Personal Care R & D Institute, Yusong-gu, Taejon, 305-343, S. Korea
 SO Nihon Yukagakkaishi (2000), 49(7), 701-706
 CODEN: NIYUFC; ISSN: 1341-8327
 PB Nihon Yukagaku Gakkai
 DT Journal
 LA Japanese
 AB A series of quaternary ammonium salts contg. ester groups in their alkyl chains were prep'd. effectively from the one-pot reaction of alkylamine with epichlorohydrin and fatty acid. The reaction of alkylamine, epichlorohydrin and fatty acid was investigated by measuring the acid and amine values of the intermediates. It is considered to be a two step reaction: One is the formation of alkyl chloride contg. an ester group from the reaction of fatty acid with epichlorohydrin. The other is the quaternization of alkylamine with alkyl chloride contg. an ester group. It was also found that the formation of alkyl chloride is greatly assisted by alkylamine, which is the raw material for the quaternary ammonium salt. The surface-active properties of prep'd. quaternary ammonium salts were measured and compared with the conventional quaternary ammonium salts.
 IT 292610-02-7P 292610-03-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (cationic surfactant; prepn. of quaternary ammonium salts contg. fatty ester groups)
 RN 292610-02-7 HCAPLUS
 CN 1,3-Propanediaminium, N,N'-bis[2-hydroxy-3-[(1-oxododecyl)oxy]propyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

2 Cl⁻

PAGE 1-A

●2 Cl⁻

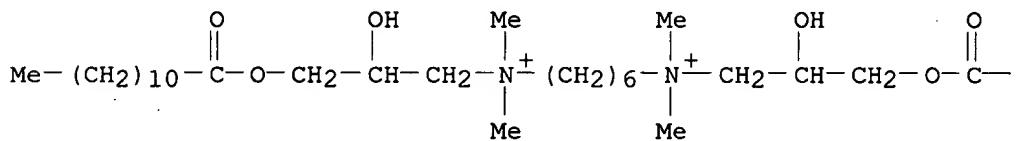
PAGE 1-B

— (CH₂)₁₀ — Me

RN 292610-03-8 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis[2-hydroxy-3-[(1-oxododecyl)oxy]propyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Cl⁻

PAGE 1-B

— (CH₂)₁₀ — Me

L23 ANSWER 3 OF 12 HCPLUS COPYRIGHT 2002 ACS

AN 1999:515550 HCPLUS

DN 131:299617

TI Synthesis and vesicle formation from dimeric pseudoglyceryl lipids with (CH₂)_m spacers: pronounced m-value dependence of thermal properties, vesicle fusion, and cholesterol complexation

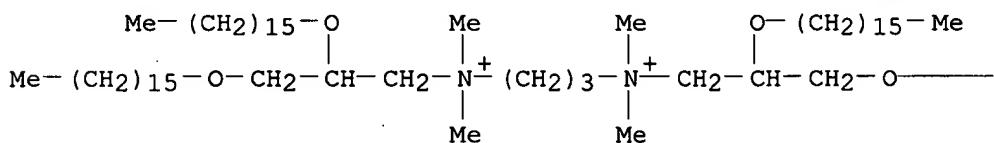
AU Bhattacharya, Santanu; De, Soma

CS Department of Organic Chemistry, Indian Institute of Science, Bangalore, 560 012, India

Pub Date?

SO Chem.--Eur. J. (1999), 5(8), 2335-2347
 CODEN: CEUJED; ISSN: 0947-6539
 PB Wiley-VCH Verlag GmbH
 DT Journal
 LA English
 AB Eight new dimeric lipids, in which the two Me2N⁺ ion headgroups are sepd. by a variable no. of polymethylene units [-CH₂m-], have been synthesized. The electron micrograph (TEM) and dynamic light scattering (DLS) of their aq. dispersions confirmed the formation of vesicular-type aggregates. The vesicle sizes and morphologies were found to depend strongly on the m value, the method, and thermal history of the vesicle prepn. Information on the thermotropic properties of the resulting vesicles was obtained from microcalorimetry and temp.-dependent fluorescence anisotropy measurements. Interestingly, the T_m values for these vesicles revealed a nonlinear dependence on spacer chain length (m value). These vesicles were able to entrap riboflavin. The rates of permeation of the OH⁻ ion under an imposed transmembrane pH gradient were also found to depend significantly on the m value. X-Ray diffraction of the cast films of the lipid dispersions elucidated the nature and the thickness of these membrane organizations, and it was revealed that these lipids organize in three different ways depending on the m value. The EPR spin-probe method with the doxylstearic acids 5NS, 12NS, and 16NS, spin-labeled at various positions of stearic acid, was used to establish the chain-flexibility gradient and homogeneity of these bilayer assemblies. The apparent fusogenic propensities of these bipolar tetra-ether lipids were investigated in the presence of Na₂SO₄ with fluorescence-resonance energy-transfer fusion assay. Small unilamellar vesicles formed from H₃C(CH₂)₁₅OCH₂CH[O(CH₂)₁₅CH₃]CH₂NMe₃⁺.Br⁻ and three representative bis-cationic lipids were also studied with fluorescence anisotropy and ¹H NMR spectroscopic techniques in the absence and the presence of varying amts. of cholesterol.
 IT 202826-37-7P 202826-38-8P 202826-39-9P
 202826-40-2P 202826-41-3P 202826-42-4P
 202826-43-5P
 RN RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and vesicle formation from)
 RN 202826-37-7 HCAPLUS
 CN 1,3-Propanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



●₂ Br⁻

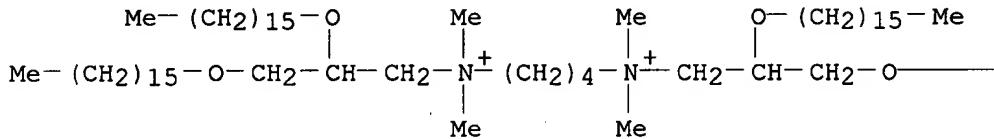
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-38-8 HCPLUS

CN 1,4-Butanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

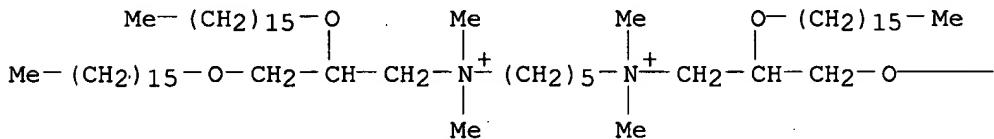
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-39-9 HCPLUS

CN 1,5-Pantanediinium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

PAGE 1-B

— (CH₂)₁₅—Me

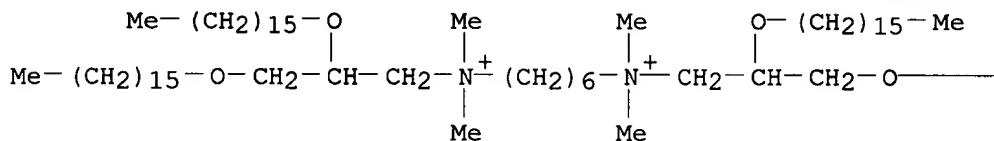
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-40-2 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

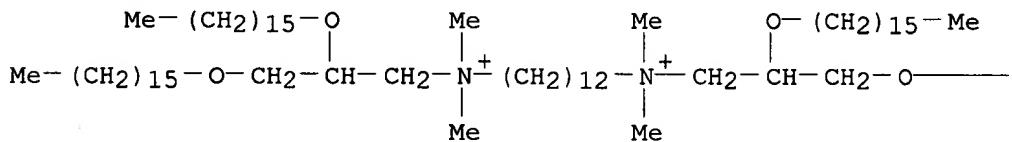
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-41-3 HCAPLUS

CN 1,12-Dodecanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

PAGE 1-B

— (CH₂)₁₅—Me

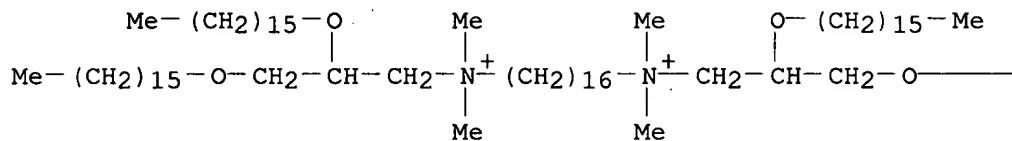
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-42-4 HCPLUS

CN 1,16-Hexadecanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

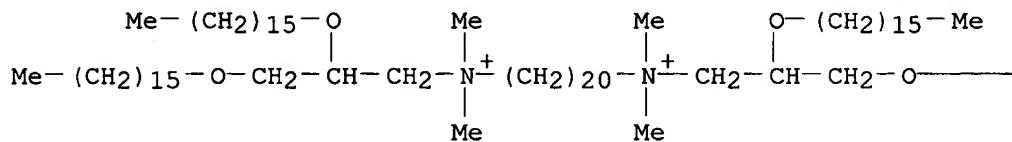
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-43-5 HCPLUS

CN 1,20-Eicosanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

PAGE 1-B

— (CH₂)₁₅—Me

PAGE 1-B

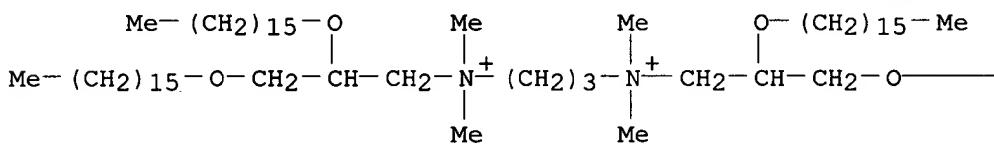
— (CH₂)₁₅—Me

(02(b))

for
47, 59RE.CNT 76 THERE ARE 76 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2002 ACS
 AN 1997:764187 HCAPLUS
 DN 128:159213
 TI Synthesis and vesicle formation from novel pseudoglyceryl dimeric lipids. Evidence of formation of widely different membrane organizations with exceptional thermotropic properties
 AU Bhattacharya, Santanu; De, Soma; George, Shaji K.
 CS Department of Organic Chemistry, Indian Institute of Science, Bangalore, 560012, India
 SO Chem. Commun. (Cambridge) (1997), (23), 2287-2288
 CODEN: CHCOFS; ISSN: 1359-7345
 PB Royal Society of Chemistry
 DT Journal
 LA English
 AB Eight new bis-cationic dimeric lipids 2a-h have been synthesized; TEM of their aq. dispersions confirmed the vesicle formation and from the thermal, spectroscopic, DLS and XRD studies it has been revealed that they form three different kinds of membranous aggregate depending on the m-value.
 IT 202826-37-7P 202826-38-8P 202826-39-9P
 202826-40-2P 202826-41-3P 202826-42-4P
 202826-43-5P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (synthesis and vesicle formation from pseudoglyceryl dimeric lipids and formation of widely different membrane organizations with exceptional thermotropic properties)
 RN 202826-37-7 HCAPLUS
 CN 1,3-Propanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

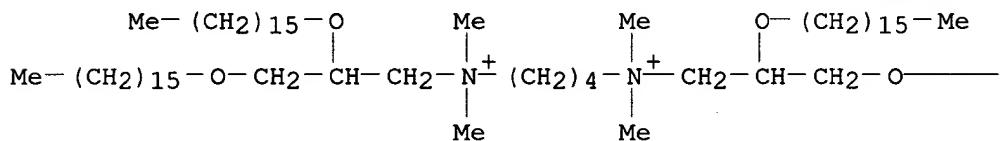
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-38-8 HCPLUS

CN 1,4-Butanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

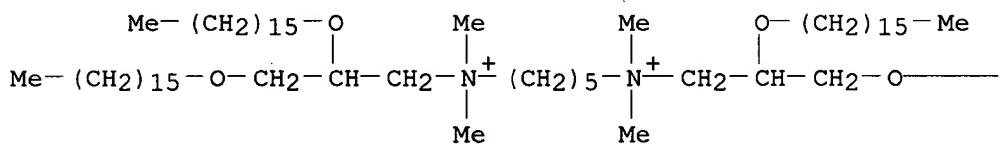
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-39-9 HCPLUS

CN 1,5-Pentanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

PAGE 1-B

— (CH₂)₁₅—Me

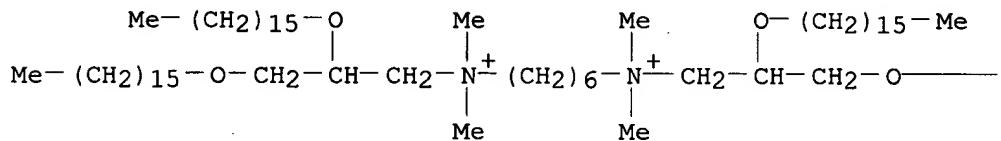
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-40-2 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

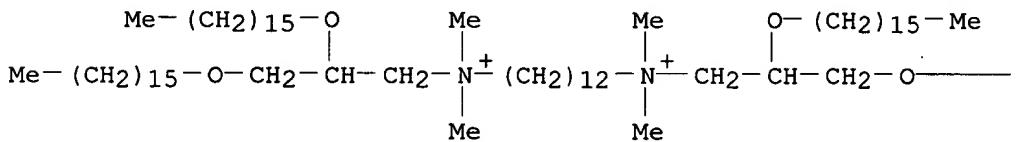
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-41-3 HCPLUS

CN 1,12-Dodecanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

PAGE 1-B

— (CH₂)₁₅—Me

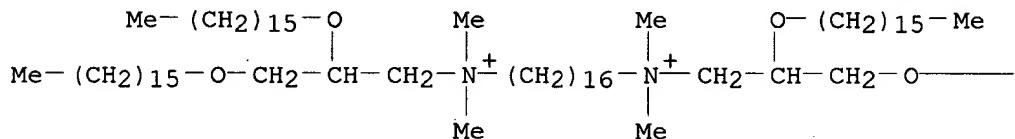
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-42-4 HCPLUS

CN 1,16-Hexadecanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

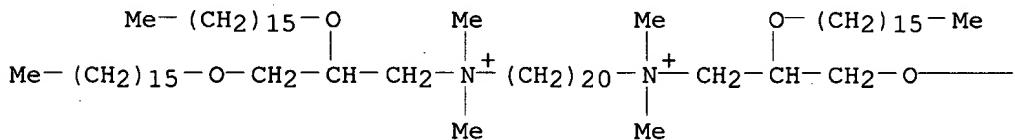
PAGE 1-B

— (CH₂)₁₅—Me

RN 202826-43-5 HCPLUS

CN 1,20-Eicosanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Br⁻

PAGE 1-B

— (CH₂)₁₅—Me

PAGE 1-B

— (CH₂)₁₅—Me

L23 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2002 ACS

AN 1992:511153 HCAPLUS

DN 117:111153

TI Preparation of cationic amides as demulsifying agents for petroleum refining

IN Chen, Robert G.; Son, Adelina J.

PA Baker Hughes Inc., USA

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | US 5117058 | A | 19920526 | US 1990-612659 | 19901109 |

OS MARPAT 117:111153

AB R1(CONH₂NR₂R₃R₄+)₂₂X- (R₁ = C_nH_{2n} alkylene, C_nH_n alkenylene, phenylene; n = 0-10; R₂ = C_mH_{2m}; m = 1-4; R₃ = Me, Et, Pr; R₄, X- = fragments of quaternizing agent) were prepd. as demulsifying agents for petroleum refining. Thus, fumaric acid was amidated by dimethylaminopropylamine at 150-160.degree. for 2 h and the product quaternized in situ by reaction with epichlorohydrin at 60-100.degree. for 2 h to give trans-HOCH₂CHOHCH₂NMe₂(CH₂)₃NHCOCH:CHCONH(CH₂)₃NMe₂CH₂CHOHCH₂OH.cntdot.2Cl (I). A no. of tests using I as a demulsifying agent were performed.

IT 143193-86-6P 143193-87-7P 143193-88-8P

143193-89-9P 143193-90-2P 143193-91-3P

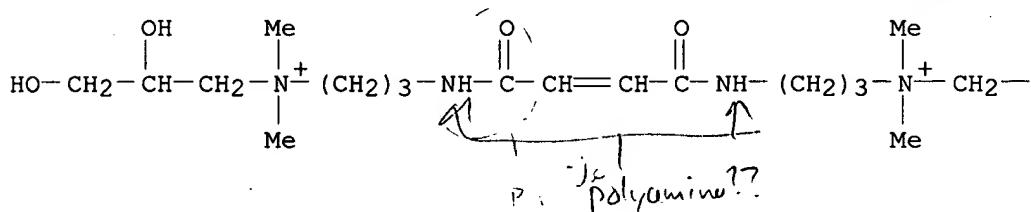
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as demulsifying agent for petroleum refining)

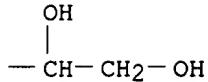
RN 143193-86-6 HCAPLUS

CN 1-Propanaminium, 3,3'-(1,4-dioxo-2-butene-1,4-diyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

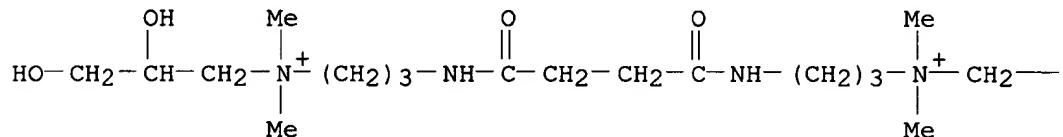


PAGE 1-B



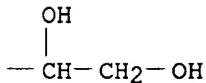
RN 143193-87-7 HCAPLUS
CN 1-Propanaminium, 3,3'-(1,4-dioxo-1,4-butanediyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



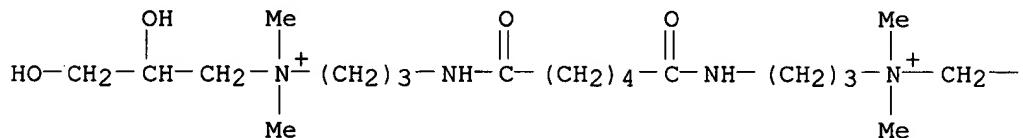
● 2 Cl⁻

PAGE 1-B



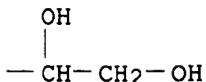
RN 143193-88-8 HCAPLUS
CN 1-Propanaminium, 3,3'-[(1,6-dioxo-1,6-hexanediyi)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

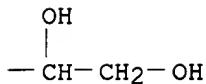


•₂ Cl⁻

PAGE 1-B



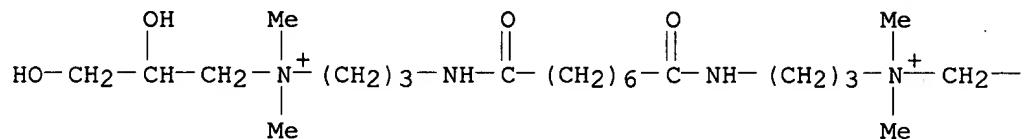
PAGE 1-B



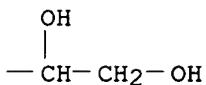
RN 143193-89-9 HCPLUS

CN 1-Propanaminium, 3,3'-(1,8-dioxo-1,8-octanediyi)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Cl⁻

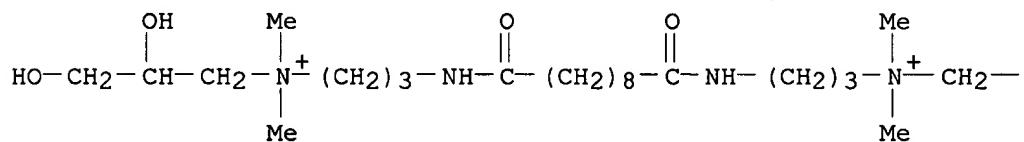
PAGE 1-B



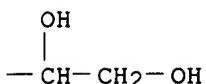
RN 143193-90-2 HCPLUS

CN 1-Propanaminium, 3,3'-(1,10-dioxo-1,10-decanediyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

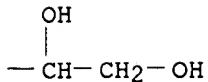
PAGE 1-A

●2 Cl⁻

PAGE 1-B



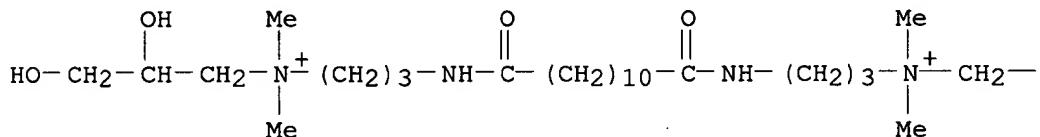
PAGE 1-B



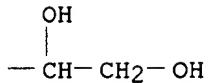
RN 143193-91-3 HCPLUS

CN 1-Propanaminium, 3,3'-(1,12-dioxo-1,12-dodecanediyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Cl⁻

PAGE 1-B



L23 ANSWER 6 OF 12 HCPLUS COPYRIGHT 2002 ACS

AN 1986:543568 HCPLUS

DN 105:143568

TI Photosensitive polymer compositions

IN Yanagisawa, Kunio; Araki, Yasuhiko; Shobi, Hajime

PA Sekisui Chemical Co., Ltd., Japan

SO Jpn. Kokai/Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 61025139 | A2 | 19860204 | JP 1984-146627 | 19840713 |
| | JP 03013582 | B4 | 19910222 | | |

AB The photosensitive polymer compns. contain (A) a photopolymerizable unsatd. monomer having >2 terminal ethylenic group, (B) photosensitizers, (C) a polymer contg. a OH-contg. component, and (D) a compd. contg. .gtoreq.2 amineimide groups. The component D is typically a compd. having the general formula Z(CO:N-N+R1R2R3)n (Z, R, R1, R2, R3 = aliph. or arom. group that may contain O, S, or N atoms; n .gtoreq.2) or its polymer. The compns. useful for prepn. of printing plates and printed circuits are flame-resistant, storage stable, and readily curable to form durable

layers. Thus, a compn. contg. 5:95 .beta.-hydroxyethyl methacrylate-Me methacrylate copolymer 60, pentaerythritol triacrylate 30, benzophenone 3, Michler's ketone 0.5, p-methoxyphenol 0.5, and malonic acid bis[1,1-dimethyl-1-(2-hydroxypropyl)amineimide] 2 parts was dissolved in MEK and coated on a PET film. The obtained material was heat-laminated onto a Cu-laminated board, exposed to UV through a neg. original, sep'd. from the PET film, developed with a 1,1,1-trichloroethane spray, and treated at 150.degree. for 10 min to obtain a fine protective pattern which was resistant to MEK, acetone, CHCl₃, trichloroethylene, MeOH, 10% H₂SO₄, toluene, xylene, and pH 12 aq. NaOH (at 70.degree.). It was also resistant to 100 cycles of -65.degree. to 125.degree. treatment (each 1 h) and to 2 h dipping in a 260-270.degree. solder bath.

IT 104472-32-4

RL: USES (Uses)

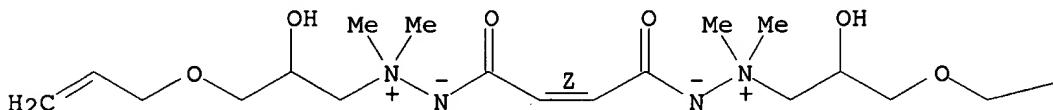
(photosensitive polymer compns. contg. photopolymerizable ethylenic monomer and photosensitizer and hydroxo-contg. polymer and, for prepn. of photoresists and soldering masks and protective coatings and printing plates)

RN 104472-32-4 HCAPLUS

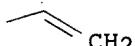
CN Hydrazinium, 2,2'-(1,4-dioxo-2-butene-1,4-diyl)bis[1-[2-hydroxy-3-(2-propenoxy)propyl]-1,1-dimethyl-, bis(inner salt), (Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L23 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2002 ACS

AN 1980:585710 HCAPLUS

DN 93:185710

TI Synthesis and properties of bis(aminimides) containing ether linkages

AU Inokuma, Seiichi; Kameyama, Eiichi; Osawa, Takao; Kuwamura, Tsunehiko

CS Fac. Eng., Gunma Univ., Kiryu, Japan

SO Yukagaku (1980), 29(5), 354-5

CODEN: YKGKAM; ISSN: 0513-398X

DT Journal

LA Japanese

AB Several dibasic acid esters contg. oxyalkylene units (OCH₂, OC₂H₄, unit no.; 1-5) were treated with aminimines derived from alkyl (C₈-C₁₂) glycidyl ethers and 1,1-dimethylhydrazine, giving a new series of bis(aminimides) with yields of 30-40%. The introduction of ether linkage

caused a decrease in m.p. and Krafft point of the bis(aminimides). The lower members were more sol. in water and showed high surface activity, but the higher members were less sol. Cloud point and crit. micelle concn. of these surfactants decrease with increasing m . They were effective phase-transfer catalysts for aq. KI-octyl bromide two phase reaction. Their efficiency increases with increasing m . The efficiency of a higher member ($m = 5$) was much greater than that of dibenzo-18-crown-6 and was close to that of dicyclohexyl-18-crown-6.

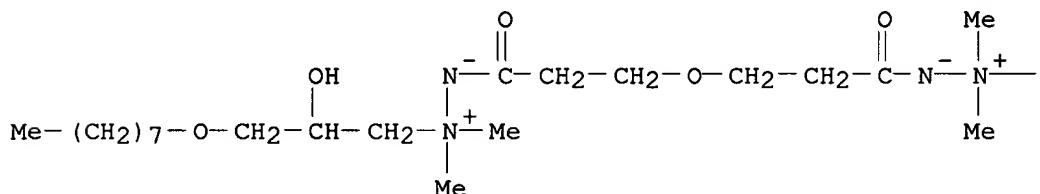
IT 75315-99-0P 75316-00-6P 75316-01-7P
75316-02-8P 75316-03-9P 75316-04-0P
75316-05-1P

RL: SPN (Synthetic preparation); PREP (Preparation (prepn. and substitution reaction catalysis by)

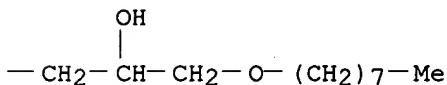
RN 75315-99-0 HCAPLUS

CN 9,18,27-Trioxa-14,22-diaza-13,23-diazoniapentatriacontane,
11,25-dihydroxy-13,13,23,23-tetramethyl-15,21-dioxo-, bis(inner salt)
(9CI) (CA INDEX NAME)

PAGE 1-A



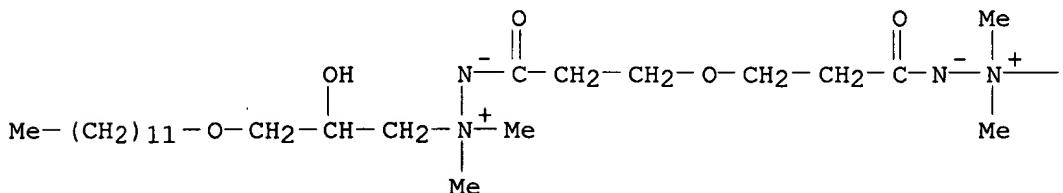
PAGE 1-B



RN 75316-00-6 HCAPLUS

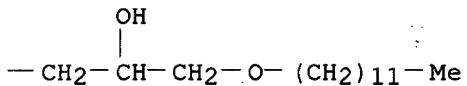
CN 13,22,31-Trioxa-18,26-diaza-17,27-diazoniatritetracontane,
15,29-dihydroxy-17,17,27,27-tetramethyl-19,25-dioxo-, bis(inner salt)
(9CI) (CA INDEX NAME)

PAGE 1-A



March 14, 2002

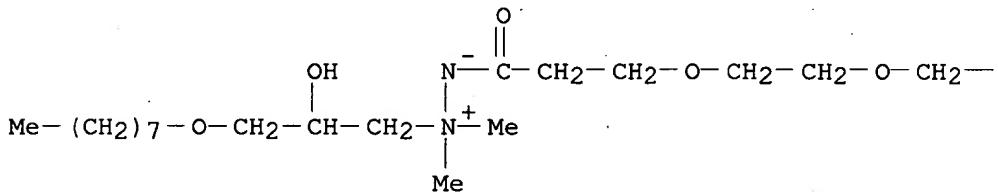
PAGE 1-B



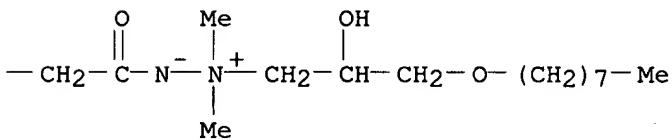
RN 75316-01-7 HCPLUS

CN 9,18,21,30-Tetraoxa-14,25-diaza-13,26-diazoniaoctatriacontane,
 11,28-dihydroxy-13,13,26,26-tetramethyl-15,24-dioxo-, bis(inner salt)
 (9CI) (CA INDEX NAME)

PAGE 1-A



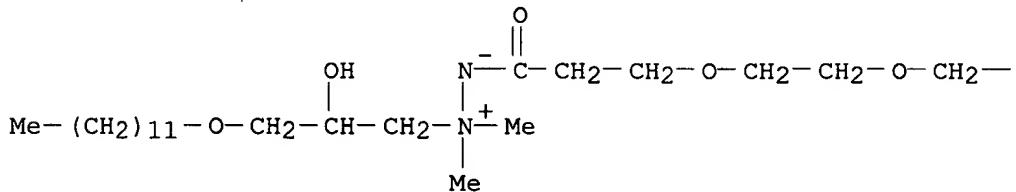
PAGE 1-B



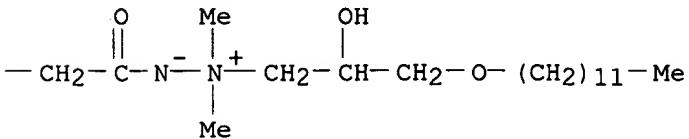
RN 75316-02-8 HCPLUS

CN 13,22,25,34-Tetraoxa-18,29-diaza-17,30-diazoniahexatetracontane,
 15,32-dihydroxy-17,17,30,30-tetramethyl-19,28-dioxo-, bis(inner salt)
 (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



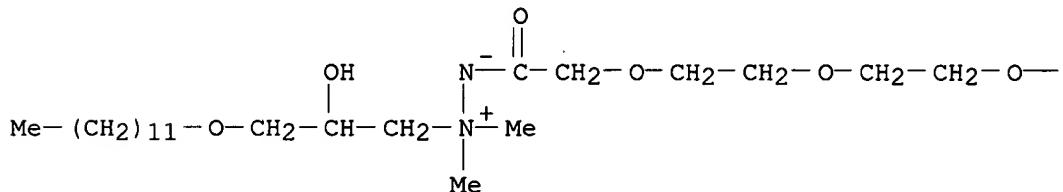
09/580, 463

March 14, 2002

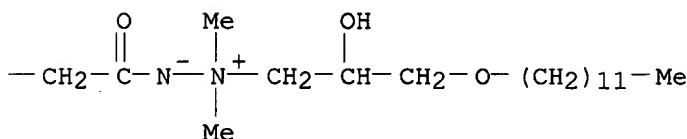
RN 75316-03-9 HCAPLUS

CN 13,21,24,27,35-Pentaoxa-18,30-diaza-17,31-diazoniaheptatetracontane,
15,33-dihydroxy-17,17,31,31-tetramethyl-19,29-dioxo-, bis(inner salt)
(9CI) (CA INDEX NAME)

PAGE 1-A



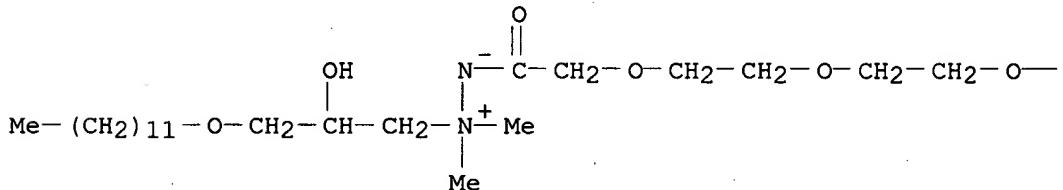
PAGE 1-B



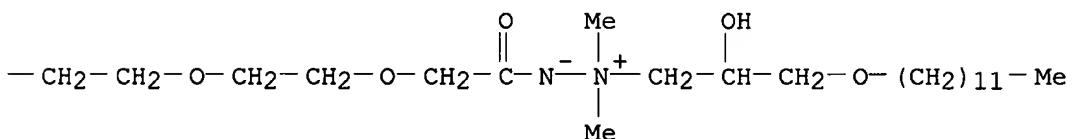
RN 75316-04-0 HCAPLUS

CN 13,21,24,27,30,33,41-Heptaoxa-18,36-diaza-17,37-diazoniatripentacontane,
15,39-dihydroxy-17,17,37,37-tetramethyl-19,35-dioxo-, bis(inner salt)
(9CI) (CA INDEX NAME)

PAGE 1-A



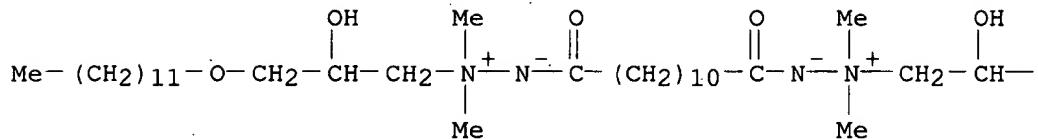
PAGE 1-B



RN 75316-05-1 HCAPLUS

CN 13,36-Dioxa-18,31-diaza-17,32-diazoniaoctatetracontane,
15,34-dihydroxy-17,17,32,32-tetramethyl-19,30-dioxo-, bis(inner salt)
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— CH₂—O—(CH₂)₁₁—Me

L23 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2002 ACS
 AN 1975:412769 HCAPLUS
 DN 83:12769
 TI Dishwashing detergent
 IN Spadini, Gianfranco L.; Demessemakers, Emiel
 PA Procter and Gamble European Technical Center, Belg.
 SO Ger. Offen., 33 pp.
 CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | DE 2441944 | A1 | 19750306 | DE 1974-2441944 | 19740902 |
| | NL 7411444 | A | 19750306 | NL 1974-11444 | 19740828 |
| | US 3983079 | A | 19760928 | US 1974-501531 | 19740829 |
| | BE 819490 | A2 | 19750303 | BE 1974-148169 | 19740903 |
| | FR 2242460 | A1 | 19750328 | FR 1974-29971 | 19740903 |
| | FR 2242460 | B1 | 19790105 | | |
| | GB 1447448 | A | 19760825 | GB 1974-38421 | 19740903 |
| | JP 50072908 | A2 | 19750616 | JP 1974-101804 | 19740904 |

PRAI LU 1973-68355 19730904

AB Dishwashing detergents contg. a polyethylene-polypropylene glycol (I) [9003-11-6], a quaternary ammonium surfactant, and a (trialkylammonio)alkanoate alkane sulfonate had good cleaning and rinsing properties and dried without leaving visible residues on dishes. Thus, a dishwashing detergent comprised didodecyldimethylammonium bromide [3282-73-3] 1.5, 3-(coconut alkylidimethylammonio)propionate 8.0, I (mol. wt. 2500, ethylene oxide content 10%) 10, coconut dimethylamine oxide 4, coconut diethanolamide 3, R(OC₂H₄)₆OH (R = coconut alkyl) 9, and water 64.5%.

IT 55448-04-9

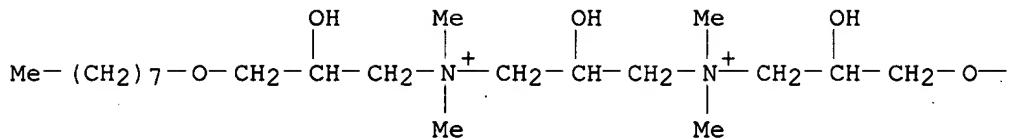
RL: USES (Uses)

(dishwashing detergent contg.)

RN 55448-04-9 HCAPLUS

CN 1,3-Propanediaminium, 2-hydroxy-N,N'-bis[2-hydroxy-3-(octyloxy)propyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

●2 Cl⁻

PAGE 1-B

— (CH₂)₇—Me

L23 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2002 ACS

AN 1974:521812 HCAPLUS

DN 81:121812

TI Epoxy resin compositions of long pot life

IN Matueda, Kanji; Niino, Hideki; Nakano, Yoshitomo

PA Permachem Asia, Ltd.; Mitsubishi Petrochemical Co., Ltd.

SO Ger. Offen., 31 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | DE 2357121 | A1 | 19740530 | DE 1973-2357121 | 19731115 |
| | DE 2357121 | C3 | 19781221 | | |
| | JP 49074799 | A2 | 19740718 | JP 1972-115704 | 19721120 |
| | JP 55050050 | B4 | 19801216 | | |
| | US 3888827 | A | 19750610 | US 1973-416667 | 19731116 |
| | GB 1423270 | A | 19760204 | GB 1973-53737 | 19731120 |

PRAI JP 1972-115704 19721120

AB Thermosetting epoxy resin-hardener compns. of long pot life for, e.g., adhesives and coatings consisted of e.g. Epikote 828 (I) [25068-38-6] and aminimide (RCON-N+R1R2R3) hardeners, e.g. BzN-N+Me2CH2Ph (II) [52723-43-0], optionally in combination with hexahydrophthalic anhydride (III) [85-42-7]. Thus, 10 parts II was dispersed in 100 parts I to give a mixt. of pot life >1 month and gelling time >8 hr at 100.deg.. Hardening this mixt. 5 hr at 150.deg. gave a product of flexural strength (JIS-K 6911) 1050 kg/cm² and deflection temp. (JIS-K 6714) 82.deg..

IT 52723-34-9 52723-36-1

RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agents, for epoxy resins)

RN 52723-34-9 HCAPLUS

CN 4,17-Dioxa-9,12-diaza-8,13-diazoniaeicosa-1,19-diene, 6,15-dihydroxy-8,8,13,13-tetramethyl-10,11-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

chloride. Similarly prep'd. were 4-[2-hydroxy-3-(dodecyloxy)propyl]-4-methylmorpholinium chloride, 1,2,4-trimethyl-1,4-bis[2-hydroxy-3-(dodecyloxy)propyl]-piperazinium dichloride, and 6 addnl. title compds.

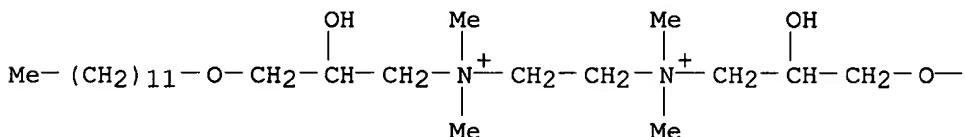
IT 32818-33-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 32818-33-0 HCPLUS

CN 1,2-Ethanediaminium, N,N'-bis[3-(dodecyloxy)-2-hydroxypropyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Cl⁻

PAGE 1-B

— (CH₂)₁₁—Me

L23 ANSWER 11 OF 12 HCPLUS COPYRIGHT 2002 ACS

AN 1971:405218 HCPLUS

DN 75:5218

TI Diquaternary ammonium halides

IN Lewis, Morton; Findley, Thomas W.

PA Swift and Co.

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | US 3567729 | A | 19710302 | US 1968-697291 | 19680112 |

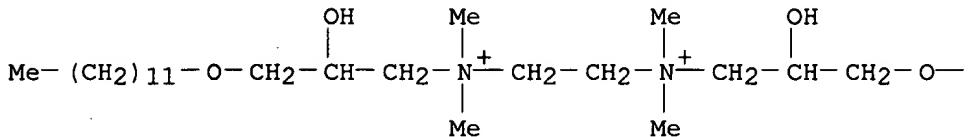
AB The title compds., which show surfactant and germicidal properties, prep'd. by reacting tertiary amines with 1-chloro-2-hydroxy-3-(dodecyloxy)propane (I) or tertiary amine hydrohalides with glycidyl ethers in the presence of H₂O. Thus, I, dodecyldimethylamine, H₂O, and iso-PrOH were reacted to give [2-hydroxyl-3-(dodecyloxy)propyl] dimethyldodecylammonium chloride. Also prep'd. were (C₁₂H₅)Me₂N+CH₂CH(OH)CH₂(OC₁₂H₂₅) Cl⁻, Et₃[(C₁₂H₂₅O)CH₂CH(OH)CH₂]N⁺ Cl⁻, and 4-[2-hydroxy-3-(dodecyloxy)propyl]-4-methylmorpholinium chloride.

IT 32818-33-0P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)
 RN 32818-33-0 HCAPLUS
 CN 1,2-Ethanediaminium, N,N'-bis[3-(dodecyloxy)-2-hydroxypropyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

● 2 Cl⁻

PAGE 1-B

— (CH₂)₁₁—Me

L23 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2002 ACS

AN 1969:451200 HCAPLUS

DN 71:51200

TI Softened cotton toweling

PA Procter and Gamble Co.

SO Brit., 5 pp.

CODEN: BRXXAA

DT Patent

LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

PI GB 1154439 19690611

PRAI US 19670524

AB Cotton and rayon textile fabrics are treated with [C₁₂H₂₅OCH₂CH(OH)CH₂NMeCH₂]₂CHOH].2MeCl (I) or with [C₁₄H₂₉CH(OH)CH₂NMeCH₂]₂CHOH].2MeCl as a softening agent. These quaternary ammonium compds. give equal softness, but much better water absorption, compared with the prior art softening agent, Arquad 2HT. Thus, water-absorbent cotton fabric was padded to 70% wet pickup with 1% aq. I soln. and dried at 50.degree.. The fabric had softness equal to that of fabric treated with Arquad 2HT but had much greater water absorption, i.e., the rise distance was 9.1 cm. after 5 min. of a wicking test in water, compared with only 1.0 cm. for fabric contg. Arquad 2HT and 11.2 cm. for untreated fabric.

IT 22433-97-2

RL: USES (Uses)

(softened water-absorbent cotton-rayon toweling treated with)

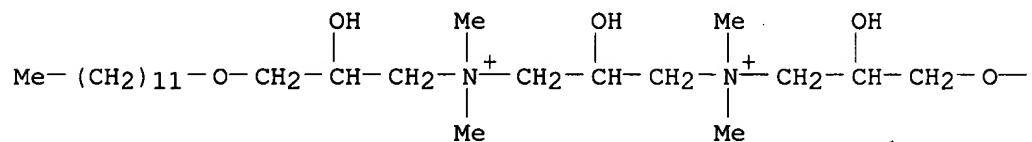
RN 22433-97-2 HCAPLUS

09/580,463

March 14, 2002

CN Ammonium, (2-hydroxytrimethylene)bis[[3-(dodecyloxy)-2-hydroxypropyl]dimethyl-, dichloride (8CI) (CA INDEX NAME)

PAGE 1-A



●2 Cl⁻

PAGE 1-B

— (CH₂)₁₁ — Me